

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES

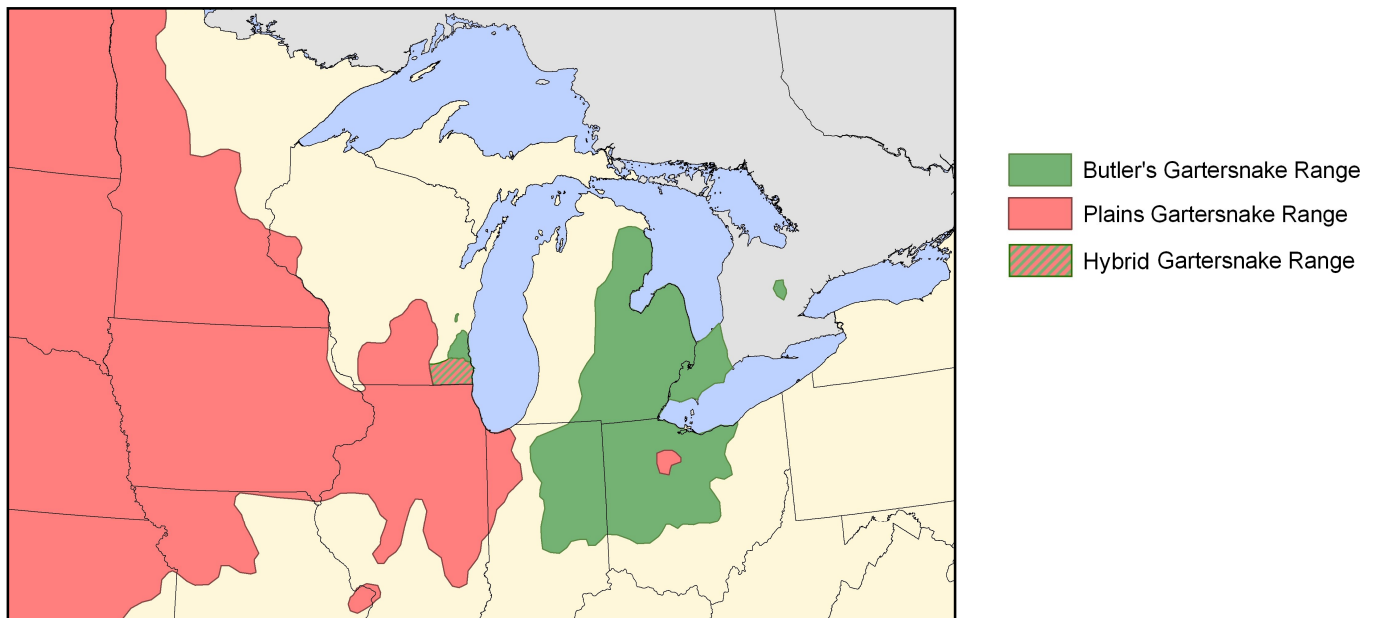
# BUTLER'S GARTERSNAKE UPDATE

MAY 2009

The Department of Natural Resources continually obtains new science on the resources it manages. New science is the base of adaptive management and helps us to better focus conservation efforts and protect rare species. As part of the Bureau of Endangered Resource's efforts to better manage the Butler's gartersnake and to update the species' Conservation Strategy, a University of Tennessee-Knoxville genetics lab was contracted with to further examine the relationship between the Butler's and plains gartersnakes in southeastern Wisconsin. The lab's completed genetics report (Fitzpatrick et al., 2008) and a corresponding physical identification report (Casper, 2008) were submitted to the Bureau in December 2008.



The genetic and physical identification reports have put into question the exact location of Butler's gartersnakes in southeastern Wisconsin and the effectiveness of the current method used to physically differentiate Butler's, plains and hybrid gartersnakes. Additional genetic and physical identification research is needed to determine exactly where Butler's gartersnakes occur in Wisconsin and if Butler's gartersnakes can be reliably distinguished physically in the field. The Bureau of Endangered Resources has already contracted with the University of Wisconsin-Stevens Point to begin answering these research questions. This study will be continually reviewed as it proceeds, similar to protocols commonly used by the United States Fish and Wildlife Service, to ensure study objectives are being met. It is estimated that the additional genetic and physical identification research will take two years to complete. Depending on the results of this research, future steps could include a change in the regulatory approach for the Butler's gartersnake, re-evaluation of the Butler's gartersnake's listing status, re-creation of gartersnake range maps, and re-creation of a key to distinguish gartersnakes in the field.



Current Butler's, plains and hybrid gartersnake ranges in the Great Lakes region.

## ***Regulation***

In the absence of necessary identification information for the Butler's gartersnake in Wisconsin, we will take a conservative approach to protecting this species. We will continue to operate under the current Butler's Gartersnake Conservation Strategy ([http://dnr.wi.gov/org/land/er/review/Butler/pdfs/BGS\\_Conservation\\_Strategy\\_v2.3.pdf](http://dnr.wi.gov/org/land/er/review/Butler/pdfs/BGS_Conservation_Strategy_v2.3.pdf)), and regulatory boundary ([http://dnr.wi.gov/org/land/er/review/Butler/pdfs/regulatory\\_boundary\\_map.pdf](http://dnr.wi.gov/org/land/er/review/Butler/pdfs/regulatory_boundary_map.pdf)).

All projects that are submitted to the Department of Natural Resources and located within the Butler's gartersnake regulatory boundary will still be assessed for possible impacts to the species. Projects that have the potential to impact the Butler's gartersnake will be encouraged to assume snake presence and follow avoidance measures for the species. We will work with all project applicants to accommodate both development and conservation needs. If projects cannot follow avoidance measures for the Butler's gartersnake, an incidental take authorization or incidental take permit may be requested. If a project applicant chooses to assume their project will not impact the Butler's gartersnake, they will be liable for any take that occurs. Applicants must still address other endangered resources issues and secure all necessary permits and approvals.

## ***Timeline***

<b>Task</b>	<b>Date/Deadline</b>
Complete the first step of research: describe the genetic composition of Butler's, plains and hybrid gartersnakes in southeastern Wisconsin.	January 2010 (approx)
Complete the second step of research: define, through genetics, range boundaries for Butler's, plains and hybrid gartersnakes in Wisconsin.	Spring 2011 (approx)
Complete the third step of research: if reliable physical identification characters are found, a key will be created that can be used by non-experts in the field to distinguish Butler's, plains, and hybrid gartersnakes.	Spring/Summer 2011 (approx)
Notify stakeholders of research results	Spring/Summer 2011 (approx)
Re-evaluate the listing status of the Butler's gartersnake	Next comprehensive list revision

## ***Contact Information***

For more information regarding this general topic, please contact Adam Collins (608-266-2243, [adam.collins@wi.gov](mailto:adam.collins@wi.gov)). For questions regarding specific projects, please contact Rori Paloski (608-264-6040, [rori.paloski@wi.gov](mailto:rori.paloski@wi.gov)).

## ***Previous Studies*** (available online at <http://dnr.wi.gov/org/land/er/review/Butler/>)

Burghardt, G. M., J. S. Placyk, Jr., G. S. Casper., R. L. Smith, and K. Taylor. 2006. Genetic structure of Great Lakes Region *Thamnophis butleri* and *Thamnophis radix* based on mtDNA sequence data: conservation implications for Wisconsin Butler's gartersnake. Report to the Wisconsin Department of Natural Resources.

Casper, G. S. 2008. Morphology of gartersnake populations in the Wisconsin zone of overlap between *Thamnophis butleri* and *Thamnophis radix*. Report to the Wisconsin Department of Natural Resources.

Fitzpatrick, B. M., G. S. Casper, J. S. Placyk, Jr., M. L. Neimiller, D. Kirk, and G. M. Burghardt. 2008. Analysis of the genetic status of populations in the zone of overlap between *Thamnophis butleri* and *Thamnophis radix* based on AFLP analysis. Report to the Wisconsin Department of Natural Resources.